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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,518	12/21/2001	Kenneth S. Murphy	MP-332	2151

7590

08/04/2003

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EXAMINER

MCNEIL, JENNIFER C

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,518

Applicant(s)

MURPHY, KENNETH S.

Examiner

Jennifer McNeil

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15-19 is/are allowed.
- 6) ☒ Claim(s) 1,7,8,13,14,20 and 24 is/are rejected.
- 7) ☒ Claim(s) 3-6,9-12,21-23 and 25-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9. 6) ☐ Other: _____

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DETAILED ACTION

This action is in response to the amendment and IDS, papers No. 8 and 9, May 29, 2003.

Newly discovered art is reflected in the new rejection of claims below. The indication of allowability of some of the previous claims is withdrawn in light of the newly found prior art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al (US 3,657,063). Brown teaches a layer of a low expansion particulate oxide layer bonded to a second layer. This second layer is considered a substrate. The oxide layer comprises 60-85 mol% hafnia, 10-30 mol% zirconia, and 10-30 mol% titania.

Claims 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Alperine et al (US 6,333,118). Alperine teaches a heat barrier layer composition for a superalloy substrate. The barrier layer comprises zirconia, dysprosia, and may also include 0-30 mol% hafnia. Upon conversion of this composition with the maximum amount of hafnia, and the minimal amount of dysprosia, the coating has approximately 40 wt% hafnia. This clearly overlaps with the claimed range.

Regarding the substrate, it may be a nickel or cobalt superalloy (col. 4, lines 60-65).

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Regarding claim 13, the article may be a turbine engine component such as a blade (col. 1, lines 30-35).

Regarding claim 14, a bond coat may be present (col. 4, lines 21-29).

Claims 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Stowell et al (US 6,413,578). Stowell teaches a method of repairing a thermal barrier coating. The coating may be repaired by the application of a paste, thus forming a layer on a substrate. The paste comprises 5-85 wt% alumina, 0-60 wt% zirconia, 0-40 wt% silica, and 0-55 wt% hafnia.

Regarding the substrate, it may be a nickel or cobalt superalloy (col. 3, lines 40-45).

Regarding claim 13, the article may be a turbine blade (col. 3, lines 25-31).

Regarding claim 14, a bond coat may be present (col. 3, lines 45-55).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperine et al (US 6,333,118). Alperine teaches a heat barrier layer as discussed above, but does not give examples of the barrier layer including hafnia. It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549.

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Claims 1, 7, 8, 13, 14, 20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stowell et al (US 6,413,578). Stowell teaches a repair process as discussed above, but does not give examples of the composition of the paste in the ranges claimed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549.

Allowable Subject Matter

Claims 15-19 are allowed.

Claims 3-6, 9-12, 21-23, and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments with respect to claims 1, and 3-27 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer McNeil whose telephone number is 703-305-0553. The examiner can normally be reached on Monday through Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 703-308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer McNeil
Examiner
Art Unit 1775


JCM
July 30, 2003